well as a number of additional typographical and grammatical mistakes found in the text of the application as filed. These corrections correct the informalities noted by the Examiner and introduce no new material to the specification. Entry of these amendments is respectfully requested.

Response to Rejection of Claims 1, 5 and 12-14 for Double Patenting

The Examiner has rejected Claims 1, 5 and 12-14 under the judicially created doctrine of obviousness-type double patenting over U.S. Patent No. 6,258,082 to the same Applicant. The Applicant acknowledges the double-patenting rejection and will file an appropriate terminal disclaimer under 37 C.F.R. 1.321(c) to overcome this rejection. The Applicant respectfully requests to file this disclaimer at such time as pending Claims subject to this double-patenting rejection become otherwise allowable.

Response to Rejection of Claims 1, 5 and 12-14 over Lin

The Examiner has rejected Claim 1, as well as Claims 5 and 12-14 which depend from Claim 1, as being anticipated by U.S. Patent No. 6,258,082 to Lin.

The Applicant notes that the Lin reference cited by the Examiner is the parent case of the instant application. The pending case claims priority to the cited Lin reference as a continuation-in-part under 35 U.S.C. §120. In light of this priority claim, the Applicant respectfully submits that the Lin reference is not prior art to the pending case, and the rejection of Claim 1 over Lin is improper. The Applicant therefore respectfully requests that the Examiner withdraw the §102(e) rejection of Claims 1, 5 and 12-14 over the Lin reference.

Response to Rejection of Claim 1 over Schachar

The Examiner has rejected Claim 1, as well as Claims 11-13 and 17 which depend from Claim 1, as being anticipated by U.S. Patent No. 5,503,165 to Schachar. Although the Applicant believes that these Claims are patentable over the art cited by the Examiner, the Applicant has amended Claim 1 in order to more clearly point out the subject matter claimed.

In particular, the Applicant would like to note that Claim 1 has been amended to include the limitations of initially filed Claim 2, which depended from Claim 1 and which the Examiner

indicated was drawn to allowable subject matter. The amended Claim 1 now includes all the limitations of the originally filed Claim 2 in independent form.

Because the amended Claim 1 is drawn to subject matter that the Examiner indicated was allowable, and because the features of amended Claim 1 are neither taught nor suggested by the Schachar reference, the Applicant submits that Claim 1 is patentable over the Schachar reference. The Applicant therefore respectfully requests that the Examiner withdraw the §102 rejection from Claim 1, as well as Claims 11-13 and 17 which depend from Claim 1, and pass these claims to allowance.

Response to Rejection under §103

The Examiner has rejected Claims 5, 7-10 and 14-16 as being unpatentable over Schachar in view of U.S. Patent No. 6,280,435 to Odrich et al. These claims all depend from Claim 1. As the Applicant has noted above, Claim 1 has been amended to include all of the limitations of Claim 2 as initially filed, which the Examiner has indicated was drawn to allowable subject matter.

Because the rejected claims all depend from Claim 1 which, as amended, is drawn to allowable subject matter, the Applicant submits that these claims are patentable over the cited art. The Applicant therefore respectfully requests that the Examiner withdraw the rejections from Claims 5, 7-10 and 14-16 and pass these claims to allowance.

Request for Examination of New Claims

The Applicant has added new Claims 18-20 to further define the claimed subject matter. The Applicant submits that these claims are in a condition for allowance in light of the cited art and respectfully requests consideration of these claims.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that the objections and rejections set for in the outstanding Office Action are inapplicable to the present claims and specification. Accordingly, Applicant respectfully request that the Examiner reconsider the objections and rejections and pass the application to allowance.

The undersigned has made a good faith effort to respond to all of the objections and rejections in the application and to place the claims in condition for allowance. Should the Examiner have any questions concerning the application or if any undeveloped issues remain, the Examiner is respectfully requested to call Applicant's attorney in order to promptly resolve such question or issue.

Respectfully submitted,

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Dated: 23 Oct 02

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Version With Markings to Show Changes Made

In the Specification:

The paragraph beginning on page 1, line 4 has been replaced with the following:

This application is a Continuation-in-part of co-pending application Ser. No. 09/303,673 filed on May 3, 1999, the entirety of which is hereby incorporated by reference herein.

The paragraph beginning on page 1, line 24 has been replaced with the following:

The above-described prior arts are however limited to the use of reshaping the corneal surface curvature for the correction of myopia, astigmatism and hyperopia. When a person reaches a certain age (around 45), the eyes start to lose their capability to focus for near vision and become**[s]** presbyopic**[a]**. Presbyopia **[c problem]** is not due to the cornea curvature but comes about as the lens loses its ability to accommodate or focus for near vision as a result of loss of elasticity that is inevitable as people age. Therefore the existing lasers using corneal reshaping can not provide the solution for presbyopia patients. In addition, corneal reshaping is ablating the central portion of t**[r]**he cornea**[l]** and changing**[e]** its curvature.

The paragraph beginning on page 2, line 1 has been replaced with the following:

The prior arts of Ruitz (US Pat. No. 5,533,997) and Lin (US Pat. No. 5,520,679) are all limited to the corneal central portion and are designed to change the curvature of the cornea by ablation of the surface layer of the cornea. The present system **[patent]**, on the contrary, does not change the corneal central curvature and only ablates**[ing]** tissue outside the limbus.

The paragraph beginning on page 2, line 11 has been replaced with the following:

The "presbyopia" correction proposed by Ruitz using an excimer (ArF) laser also required the corneal surface to be reshaped to form a "multifocal" effect**[ort]** for presbyopia patients to see near and far. However, Ruitz's "presbyopia" correction is fundamentally different from that of the present system **[patent]** which does not change the corneal curvature and only ablates the scleral tissue outside the limbus area. In the

present system **[patent]**, we propose that the presbyopia patient is treated **[corrected]** by increasing the patient's accommodation rather than reshaping the cornea into a "multifocal" configuration.

The paragraph beginning on page 3, line 16 has been replaced with the following:

It is yet another objective of the present invention to use a scanning device such that the degree of ciliary muscle **[mussel]** accommodation can be controlled by the location, size and shape**[s]** of the removed sclera tissue.

The three paragraphs beginning on page 3, line 21 has been replaced with the following:

It is yet another objective of the present system **[invention]** to define the optimal laser parameters and the ablation patterns for the best clinical outcome for presbyopia patients, where scleral ablation will increase the accommodation of the ciliary muscle **[mussel]** by the increase of the flexibility in the laser-ablated areas.

It is yet another objective of the present system **[invention]** to provide the appropriate scanning patterns which will cause effective ciliary body contraction and expansion of **[on]** the zonules and the corneal lens based upon a theory different from the prior art**[s]**.

It is yet another objective of the present system **[invention]** to provide a new mechanism which supports the clinical results of laser presbyopia correction with minimum regression. One important concept proposed in the present system **[invention]** is to support the post-operative results which show minimum regression when presbyopia is corrected by a laser ablation of **[for]** the sclera tissue. We proposed that the laser ablated sclera tissue "gap" is filled in by the sub-conjunctiva tissue within a few days after the surgery. This filled-in sub-conjunctiva tissue is much more flexible than the original sclera tissue. Therefore the flexible filled-in gap in the sclera area will allow the ciliary body to contract and cause the zonular fiber and the corneal lens to adjust its focusing power and increase the accommodation of the presbyopic patient.

The two paragraphs beginning on page 4, line 28 have been replaced with the following:

Figure 2 is a schematic**[s]** of a scleral ablation area outside the limbus.

Figure 3 is a schematic**[s]** of the structure of an eye **[corneal]** including the conjunctiva, sub-conjunctiva and scleral area ablated by laser.

The paragraph beginning on page 4, line 34 has been replaced with the following:

Figure 1 shows the lens of a human eye 12 connected to the scleral tissue 13 and the ciliary body 14 by zonule fibers 15. The lens power is adjusted **[given]** by contraction and expansion of the ciliary muscle **[mussel]** 14 and the movement of the zonular fiber 15 connected to the lens 12.

In the Claims:

Claim 2 has been canceled.

Claim 1 has been amended, the amended claims 1-17 reading as follows:

1. (Amended) A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in a predetermined pattern and area, whereby the accommodation of the presbyopic eye increases via the movement of the ciliary body and zonular fiber connected to the **[corneal]** lens of the eye, and said movement of the ciliary body is provided by the increase of the flexibility of said laser beam ablated scleral tissue which is filled in by sub-conjunctival tissue.

2. (Canceled)

3. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said predetermined pattern includes at least 3 radial lines around the area of the cornea outside the limbus and each radial line has a dimension of about (0.1 - 1.0) mm in width and (2.0 - 5.0) mm in length.

4. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said predetermined area defined by the area outside the limbus and between two circles having diameter of about 10 mm and 18 mm.

5. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said

predetermined pattern includes at least 3 curved lines around the area of the cornea outside the limbus.

6. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said predetermined pattern includes a dotted ring pattern around the area of the cornea outside the limbus and each dot has a size of about (0.1 - 2.0) mm in diameter.

7. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said predetermined pattern is generated by a scanning mechanism.

8. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said predetermined pattern is generated by a fiber-coupled device.

9. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said predetermined pattern is generated by a translation device.

10. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said predetermined pattern is generated by a mask which is non-transparent to the said laser beam.

11. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said laser beam is a ultraviolet laser having a predetermined wavelength of about (0.15 - 0.36) microns.

12. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said laser beam is an infrared laser having a predetermined wavelength of about (0.9 - 6.0) microns.

13. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said laser beam is a short pulse solid state laser having a predetermined wavelength of about (0.5 - 1.4) microns and a pulse width of about one femtosecond to one nanoseconds.

14. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said laser beam is delivered to said predetermined area of the cornea by an optical fiber.

15. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said scleral tissue is ablated by said laser beam after the conjunctiva is open.

16. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 1 in which said scleral tissue is ablated by said laser beam without opening the conjunctiva.

17. A laser beam ophthalmic surgery method for treating presbyopic patient by removing a portion of the scleral tissue of an eye in accordance with claim 12 in which said laser beam is tightly focused to a spot size of about (1-500) microns to selectively remove the sclera tissue underneath the conjunctiva layer.

New Claims 18 - 20 have been added as follows:

18. (New) A laser beam ophthalmic surgery method for treating a presbyopic eye, comprising incising a portion of the scleral tissue of the eye through ablation to a depth of 300 - 630 microns and to a width of 0.1 - 2.0 millimeters to increase the accommodation of the eye by using an ablative laser which outputs pulses of light having a wavelength in the range of 150 - 350 nanometers or in the range of 2.6 - 3.2 microns, said pulses each having an energy of 0.1 - 30.0 milli-Joules and a pulse duration of 100 nanoseconds to 500 microseconds, said wavelength, energy and pulse duration being selected to incise the scleral tissue without causing significant thermal damage to the surrounding tissue.

19. (New) A laser beam ophthalmic surgery method as in Claim 18 wherein the accommodation of the eye is increased via the movement of the ciliary body and zonular fiber connected to the lens of the eye.

20. (New) A laser beam ophthalmic surgery method as in Claim 18 wherein the wavelength, energy and pulse duration are selected so as to not cut the scleral tissue through to the choroid layer.